signal received by the data-decoding receiver and consequently to transmit a control signal along the control channel to the control device,

said control device being adapted to control the power output of the optical source consistent with achieving a predetermined sensed level of said predetermined characteristic.

REMARKS

This paper is filed in response to the Office Action dated March 28, 2003. Applicants appreciate the Examiner's thorough examination of the application as evidenced by the Office Action. In response to the Office Action, Applicants have amended independent Claim 1 to more clearly define the claimed invention. Further, Applicants provide remarks below regarding the patentability of the claims. Applicants respectfully submit that the claims are patentable and are in condition for immediate allowance.

With regard to the Office Action, all of the claims have been rejected as either anticipated under 35 U.S.C. § 102(b) or obvious under 35 U.S.C. § 103(a) in light of U.S. Patent No. 5,801,860 to Yoneyama. Applicants respectfully disagree with these rejections.

The claimed invention relates to a data communications link having a transmitter station that includes a multi-power level optical source connected to receive data words of n digital bits and arranged to encode the bits of each word into one of m optical power levels, so that data is encoded in the power level of the multi-power-level output signal of the transmitter.

The output of the transmitter is transmitted along a communications path to a data receiver station that includes a data decoding receiver arranged to receive and decode the multi-power-level optical signal into n bit digital words. It is noted here that the optical signal of the system in which the invention is embodied has a single wavelength, and all the information is encoded into the multiple power levels of the signal.

In contrast to the claimed invention, the '860 Yoneyama patent discloses a wavelength division multiplexing transmission system. This is a technically distinct system from the multi-power-level system of the claimed invention.

In particular, as is well known, the transmitter of a wavelength division multiplexing system such as the one disclosed in the '860 Yoneyama patent includes a plurality of individual

optical sources, each of which is operable to transmit light at a different wavelength from other such sources. Data is carried in each of the different wavelength signals. In order to ensure that each channel of the multiplexer has the same power level, the system of the '860 Yoneyama patent has a feedback arrangement.

The system of the '860 Yoneyama patent does not, however, include a data transmitter station having a multi-power-level optical source arranged to encode the bits of each word into one of m optical power levels of a single wavelength optical signal, as is recited in amended independent Claim 1. Instead, each channel of the transmitter has a single, but controllable, power level. As noted at column 1, lines 31 to 39 of the '860 Yoneyama patent, to control the power level in each of the output channels, a controllable power unit is provided. However, this power unit is not adapted to encode the bits of a message into one of m optical power levels. Instead, it is provided merely to allow control of the base power level. All signals have the same power level.

Likewise, the system of '860 Yoneyama patent does not include a data receiver station including a data decoding receiver arranged to receive and decode said multi-power level single wavelength optical signal into n bit digital words, as is recited in independent Claim 1. It is noted that the Office Action states that this is inherent in Figure 6 of the '860 Yoneyama patent, but given the comments relating to the transmitter of the '860 Yoneyama patent, it will be appreciated that no such receiver would be necessary because data is not encoded at the transmitter end in a multi-power-level signal.

Further, Applicants note that the communications link in which the claimed invention is embodied is fundamentally different from that of the '860 Yoneyama patent. In the present, data is encoded in a single wavelength, multi-power-level signal. In the '860 Yoneyama patent, data is encoded in a plurality of different wavelength signals, which signals all have the same power level. There is no teaching in the '860 Yoneyama patent that would lead a skilled person to the communication link as defined in amended Claim 1. As the '860 Yoneyama patent neither teaches or suggests the transmitter, receiver, or communications link of the claimed invention, Applicants respectfully submit that the independent Claim 1, as well as the claims that depend therefrom is patentably over the cited reference.

CONCLUSION

In light of the amendments to Claim 1 and the remarks above, Applicants respectfully submit that the case is now in condition for allowance. It is therefore requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those, which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

W. Kevin Ransom
Registration No. 45,031

CUSTOMER NO. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the US Patent and Trademark Office at Fax No. 703-872-9315 on the date shown below.

W. Kevin Ransom

6/27/03
Date

CLT01/4598589v1

Version with Markings to Show Changes Made:

In the Claims:

Please amend Claim 1 as follows:

1. A data communication link comprising a data transmitter station coupled by an optical communication channel to a data receiver station,

wherein the data transmitter station includes a multi-power-level optical source connected to receive data words of n digital bits and arranged to encode the bits of each word into one of m optical power levels of a single wavelength optical signal, the multi-power-level output signal of the optical source being transmitted along the optical communications channel to the data receiver station, said data receiver station including a data-decoding receiver arranged to receive and decode said multi-power level single wavelength optical signal into n bit digital words,

and wherein said receiver station further comprises a received-signal condition monitor coupled by a control channel to a control device located in the data transmitter station, said condition monitor being arranged to sense the level of a predetermined characteristic of the signal received by the data-decoding receiver and consequently to transmit a control signal along the control channel to the control device,

said control device being adapted to control the power output of the optical source consistent with achieving a predetermined sensed level of said predetermined characteristic.